

## Human HBeAb(hepatitis B virus E antibody) ELISA Kit

**Catalogue No.:** EH4106

**Size:** 96T

**Reactivity:** Human

**Application:** This immunoassay kit allows for the qualitative determination of HBeAb in human serum or plasma.

**Storage:** 2-8°C for 6 months.

**NOTE: FOR RESEARCH USE ONLY.**

### Kit Components

Item	Specifications(96T)	Storage
Coated assay plate	1vial	2-8°C
Negative Control	1vial	2-8°C
Positive Control	1vial	2-8°C
Sample Dilution Buffer	1vial	2-8°C
HRP conjugated HBeAb	1vial	2-8°C
neutralizing antigen HBeAg	1vial	2-8°C
Wash Buffer (20 x concentrate)	25 ml×2	2-8°C
Substrate A	1vial	2-8°C (Protect from light)
Substrate B	1vial	2-8°C (Protect from light)

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Stop solution	1vial	2-8°C
Adhesive Strip (For 96 wells)	2	2-8°C
Instruction manual	1 copy	

### Principle of the Assay

This kit was based on Competitive ELISA. HBcAb was pre-coated onto 96-well plates. The test samples and HRP conjugated HBeAb were added to the wells, then add neutralizing antigen HBeAg, if there were any HBeAb in the samples, it would competes with HRP conjugated HBeAb and form HBeAb-HBeAg-HBeAb complex. TMB substrates were used to visualize HRP enzymatic reaction. It was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The optical density of developed color is read with a suitable photometer at 450nm with a selected reference wavelength within 650 nm.

### Precautions for Use

1. After opening and before using, keep plate dry.
2. Before using the Kit, balance the reagents at room temperature at least 30 mins.
3. Storage TMB reagents avoid light.
4. Washing process is very important, not fully wash easily cause a false positive.
5. Don't let Micro plate dry at the assay, for dry plate will inactivate active components on plate.
6. Don't reuse tips and tubes to avoid cross contamination.
7. Avoid using the reagents from different batches together.

### Material Required But Not Supplied

1. Microplate reader (wavelength: 450nm)

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2. 37°C incubator
3. Automated plate washer
4. Precision single and multi-channel pipette and disposable tips
5. Clean tubes and Eppendorf tubes
6. Deionized or distilled water

### **Manual Washing**

Discard the solution in the plate without touching the side walls. Clap the plate on absorbent filter papers or other absorbent material. Fill each well completely with 350ul wash buffer and soak for 1 to 2 minutes, then aspirate contents from the plate, and clap the plate on absorbent filter papers or other absorbent material. Repeat this procedure two more times for a total of THREE washes.

### **Automated Washing**

Aspirate all wells, then wash plate THREE times with 350ul wash buffer. After the final wash, invert plate, and clap the plate on absorbent filter papers or other absorbent material. It is recommended that the washer be set for a soaking time of 1 minute.

### **Sample Collection and Storage**

Isolate the test samples soon after collecting, then, analyze immediately (within 2 hours). Or aliquot and store at -20°C for long term. Avoid multiple freeze-thaw cycles.

- Serum: Coagulate the serum at room temperature (about 1 hour). Centrifuge at approximately 1000 × g for 15 min. Analyze the serum immediately or aliquot and store at -20°C.
- Plasma: Collect plasma with heparin or EDTA as the anticoagulant. Centrifuge for 15min at 2-8°C at 1500 x g within 30 min of collection. For eliminating the platelet effect, suggesting that further centrifugation for 10 min at 2-8°C at 10000 x g. Analyze immediately or aliquot and store frozen at -20°C.

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**Note:** Samples to be used within 5 days may be stored at 2-8°C, otherwise samples must be stored at -20°C (≤1 month) or -80°C (≤2 months) to avoid loss of bioactivity and contamination. Hemolyzed samples are not suitable for use in this assay.

#### **Wash Buffer Preparation:**

Dilute 50mL of Concentrated Wash Buffer into 950 mL of Wash Buffer with deionized or distilled water.

#### **Assay Procedure**

1. Bring all reagents to room temperature before use.
2. Label the sample wells, 2 Negative Controls, 2 Positive Controls and 1 blank well. Do not add samples, HRP- HBeAb and neutralization antigen into blank well, other steps are the same
3. Add 50 µL sample, Negative Controls and Positive Controls to corresponding wells.
4. Add 50 µL HRP- HBeAb to each well.
5. Add 50 µL neutralization antigen HBeAg to each well.
6. Seal the plate with a cover and incubate at 37°C for 30 min.
7. Remove the cover, and wash plate 5 times with Wash buffer and each time let the wash buffer stay in the wells for 1-2 min.
8. Add 50 µl of TMB substrate A and 50 µl of TMB substrate B into each well. Gently tap the plate to ensure thorough mixing. Cover the plate and incubate at 37°C in dark within 30 min. And the shades of blue can be seen in the Positive Controls. Negative Controls wells show no obvious color.
9. Add 50 µl of Stop solution into each well and mix thoroughly. The color changes into yellow immediately.
10. Read the O.D. absorbance at 450 nm in a microplate reader immediately after adding the stop solution (Use the blank well to set zero).

#### **Data Analysis**

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**Calculation of Results**

For undiluted samples , Cutoff Value(C.O.) =  $NCx0.2$

For diluted samples, Cutoff Value(C.O.) =  $NCx0.5$

**NCx** : Mean Absorbance of Negative Control.

undiluted samples : dilution factor  $\leq 2.5$ ; diluted samples: dilution factor  $> 2.5$

**Note:**

1. Sample with absorbance values  $S / C.O. > 1$  are NON-REACTIVE and are considered NEGATIVE for HBeAb.  
Sample with absorbance value  $S / C.O. \leq 1$  are are considered POSITIVE for HBeAb.
2. Mean Absorbance of Negative Control  $\leq 0.4$ , it should be considered invalid and need to be retested.

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